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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/783,690	02/20/2004	George R. Gawell	1576-0080	7003

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EXAMINER	
BERHANU, SAMUEL	

ART UNIT	PAPER NUMBER
2838	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/783,690	GAWELL ET AL.	
	Examiner	Art Unit	
	Samuel Berhanu	2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/20/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 7,10, and 17 are objected to because of the following informalities:

Claims 7 and 10: "Bypass element" in line 1, lacks antecedence. For examination purposes, claims 7 and 10 are considered to be dependent on Claim 1.

Claim 17: "the trickle charging current" in line 1, lacks antecedence. For examination purposes, Claim 17 is considered to be dependent on Claim 11.

Appropriate corrections are required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2,4, 6-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Johnson, Jr. et al. (US 6,492,792).

Regarding Claims 1 and 11, Johnson, Jr. et al. disclose in Figures 1-4 a system for recharging battery comprising: a fast charging current switch (24) for coupling a fast charging current to a battery (6) in response to the battery voltage being at or above a threshold level; and a bypass element (2) for coupling a trickle charging current to the battery (Column 2, lines 65-67, Column 3, lines 36-67).

Regarding Claims 2 and 12, Johnson, Jr. et al. disclose, wherein the bypass element is a resistor (50,51) coupled between a fast charging current source and the battery to provide a trickle charging current to the battery (Column 4, lines 20-39).

Regarding Claims 4 and 14, Johnson, Jr. et al. disclose, the fast charging current switch (46) includes a comparator for comparing the battery voltage to the threshold level (Column 3, lines 56-59)

Regarding Claims 6 and 16, Johnson, Jr. et al. disclose, wherein the fast charging current switch (46) includes a transistor (41) and the output of the comparator (46) is coupled to the transistor (41) to enable the coupling of the fast charging current to the battery (6) in response to the battery voltage being at or above the threshold level (Column 2, lines 65-67, Column 3, lines 36-67).

Regarding Claim 7, Johnson, Jr. et al. disclose wherein the bypass element (2) is coupled across the transistor of the fast charging (31,41) current switch so that the trickle charge is conducted by the bypass element to the battery in response to the transistor of the fast charging current switch not being enabled (Column 2, lines 65-67, Column 3, lines 36-67).

Regarding Claim 8, Johnson, Jr. et al. disclose, the fast charging current switch (46) includes a first transistor (41) coupled between a second transistor (31) and electrical ground, the first transistor enabling the second transistor to conduct a fast charging current to the battery in response to the battery voltage being at or above the threshold level (Column 3, lines 37-49).

Regarding Claim 9, Johnson, Jr. et al. disclose, wherein the fast charging current switch (41) includes a zener diode (45) coupled between the battery and a transistor, the transistor also being coupled between the battery (6) and electrical ground so that a battery voltage exceeding the breakdown voltage of the zener diode enables the transistor to couple the battery to ground and couple the fast charging current to electrical ground through the battery (Column 3, lines 22-36).

Regarding Claim 10, Johnson, Jr. et al. disclose, wherein the bypass element includes a resistor (50,51) coupled between the battery (6) and electrical ground and being coupled across the transistor (52) so that the fast charging current is coupled to electrical ground through the battery and resistor to provide a trickle charge to the battery (Column 4, lines 20-51).

Regarding Claim 13, Johnson, Jr. et al. disclose limiting the fast charging current to generate the trickle charging current (Column 2, lines 65-67).

Regarding Claim 14, Johnson, Jr. et al. disclose the battery voltage (6) to the threshold level.

Regarding Claim 15, Johnson, Jr. et al. disclose, the comparison further comprising: applying the battery voltage (6) to the cathode of a zener diode (45).

Regarding Claim 17, Johnson, Jr. et al. disclose in Figure 3, the trickle charging current coupling further comprising: bypassing the transistor (51,52) with a trickle charging current in response to the transistor not being enabled to provide a fast charging current to the battery (Column 4, lines 20-51).

Regarding Claim 18, Johnson, Jr. et al. disclose, detecting with a zener diode (45) whether the battery voltage is at or above the threshold level.

Regarding Claim 19, Johnson, Jr. et al. disclose, enabling a transistor to couple the fast charging current to electrical ground through the battery in response to the zener diode detecting that the battery voltage is at or above the threshold level (Column 3, lines 22-36).

Regarding Claim 20, Johnson, Jr. et al. disclose bypassing the transistor with a resistor so that the trickle charging current is provided to electrical ground through the battery in response to the battery voltage being less than the breakdown voltage of the zener diode (Column 4, lines 8-51).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson, Jr. et al. (US 6,492,792).

Regarding Claim 3, Johnson, Jr. et al disclose in Figures 1-4 the claim invention, except the resistor is in the range of 100 to 2000 ohms. However, it has been held that discovering an optimum range is routine in the art. (In re Aller, 105 USPQ 233).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time of the invention to choose an appropriate value, such us 100 to 2000 ohms so as to safely charge the battery.

Regarding Claim 5, Johnson, Jr. et al disclose the claim invention, except the threshold level is approximately 950 mv/cell. However, it has been held that discovering an optimum range is routine in the art. (In re Aller, 105 USPQ 233). Accordingly, it would have been obvious to a person having ordinary skill in the art to use an appropriate range of threshold level, such us 950mv/celll in Johnson, Jr. et al. Charging Circuit in order to safely charge the battery.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Berhanu whose telephone number is 571-272-8430. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6/27/05

MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SB